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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/750,828	01/05/2004	Yasuhiro Yamasaki	0020-5212P	2504

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EXAMINER
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RODEE, CHRISTOPHER D

ART UNIT	PAPER NUMBER
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1756

DATE MAILED: 10/26/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/750,828

Applicant(s)

YAMASAKI ET AL.

Examiner

Christopher RoDee

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |  |
|--|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)            |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>5/25/04 5/24/05</u> | 6) <input type="checkbox"/> Other: ____  |

**DETAILED ACTION*****Claim Objections***

Claim 9 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. Claim 9 specifies a charge generating material comprising at least one of the compounds from Formula (I) to (IV). This claim does not further limit claims 1 to 4 because it does not require the photoreceptor having the conductive substrate or the photosensitive layer structure of claims 1-4. Because the photoreceptor is not present in this dependent claim, claim 9 does not properly further limit claims 1-4.

***Claim Rejections - 35 USC § 101 & 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 10 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 10 provides for the use of the compounds given by the formulae (I) to (IV), but, since the claim does not set forth any steps involved in the method/process, it is unclear what method/process applicant is intending to encompass. A claim is indefinite where it merely recites a use without any active, positive steps delimiting how this use is actually practiced.

Claim 10 is also rejected under 35 U.S.C. 101 because the claimed recitation of a use, without setting forth any steps involved in the process, results in an improper definition of a

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process, i.e., results in a claim which is not a proper process claim under 35 U.S.C. 101. See for example *Ex parte Dunki*, 153 USPQ 678 (Bd.App. 1967) and *Clinical Products, Ltd. v. Brenner*, 255 F. Supp. 131, 149 USPQ 475 (D.D.C. 1966).

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 1-5, 7, 9, and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP 04-362653.

The Japanese document discloses a photoreceptor having a conductive substrate and a photoconductive layer containing a charge generating tetraazaporphyrin compound given by the formula (I). These compounds contain metal central atoms, such as tin (see Abstract; compound 21), aluminum (see Abstract; compound 29), germanium (See Abstract; compounds 19, 23, 33, 34, 40, 41, 45), and silicon (See Abstract; compounds 15-18, 20, 22, 24, 26-32, 35-39, 42-44, 46-48). The two ring structures can both be phthalocyanines (e.g., compound 43), both be naphthalocyanine (e.g., compounds 44 & 45), or be a mixture of these groups (compounds 1, 2, & 20). indium (compound 51) and gallium (compound 50) are also disclosed as useful metals. As noted in the instant specification, aluminum and gallium are examples of metals having a valence of up to 3 and silicon, tin, and germanium are examples of metals

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having valences of four or five. The photoreceptors are used in the examples with a long wave exposure source.

The JP document does not disclose a specific charge generating compound having different metals in the tetraazaporphyrin ring. However, the reference clearly teaches that the rings can have different structures (e.g., phthalocyanine and naphthalocyanine) and teaches that aluminum, indium, gallium, germanium, tin, and silicon are useful metals atoms for M. It would have been obvious to one having ordinary skill in the art at the time the invention was made to produce the charge generating compound of the reference with different metal atoms, such as aluminum or gallium in one ring and silicon, tin, or germanium in the other ring, because the reference teaches each of these metals as effective and a metal is required for each azaporphyrin. Further, where the azaporphyrin rings are different, they would have to be formed separately, which would permit the artisan to freely select different metals for each azaporphyrin ring from the disclosure in order to provide the long wavelength sensitivity of the reference.

Claims 8 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP 04-362653 as applied to claims 1-5, 7, 9, and 10 above, and further in view of *Organic Photoreceptors for Imaging Systems*, to Borsenberger, pp. 289-296.

The JP document was discussed above. It does not appear to disclose the photosensitive layer as a combination of a charge generation layer and a charge transport layer or of coating these layers to make the photoreceptor, but Borsenberger teaches that photoreceptors typically have a charge generation layer on a conductive support and a charge transport layer overlying the charge generation layer (pp. 290-291; Figure 1). The combination

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of layer permits the artisan to optimize the respective characteristics of charge generation and charge transport. Methods of coating such a photoreceptor are disclosed (pp. 292-294).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to produce the photoreceptor of the JP document with separate layers for charge generation and charge transport function because Borsenberger teaches that this structure permits the artisan to optimize each function in the photoreceptor.

#### ***Allowable Subject Matter***

Claim 6 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

#### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher RoDee whose telephone number is 571-272-1388. The examiner can normally be reached on most weekdays from 6:00 to 4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Huff can be reached on 571-272-1385. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

cdr  
24 October 2005



**CHRISTOPHER RODEE  
PRIMARY EXAMINER**